

## CLAIMS

What is claimed is:

1. A method for providing controlled broadband access bandwidth allocation adjustment service in a broadband network, comprising the steps of:

implementing a broadband bandwidth allocation service manager that is accessible via said broadband network;

receiving a broadband bandwidth allocation adjustment request at said bandwidth allocation service manager from a broadband allocation adjustment requestor; and

adjusting a broadband bandwidth allocation on behalf of said requestor in accordance with said broadband bandwidth allocation adjustment request.

2. A method in accordance with Claim 1 further including periodically establishing broadband bandwidth allocation pricing based on current broadband bandwidth demand and availability factors, and conditioning said adjusting step on acceptance of said bandwidth allocation pricing by said requestor.

3. A method in accordance with Claim 2 wherein said step of establishing broadband bandwidth allocation pricing includes decreasing pricing to fill bandwidth allocation vacancies.

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4. A method in accordance with Claim 2 wherein said step of establishing broadband bandwidth allocation pricing includes providing specialized pricing to said requestor.

5. A method in accordance with Claim 2 further including advertising said broadband bandwidth allocation pricing to said requestor.

6. A method in accordance with Claim 5 wherein said pricing includes rates for units of bandwidth purchased for selected time periods.

7. A method in accordance with Claim 2 wherein said step of establishing broadband bandwidth allocation pricing includes receiving competitive pricing bids from multiple broadband bandwidth allocation adjustment requestors.

8. A method in accordance with Claim 7 further including advising said requestor of said competitive pricing bids and allowing said requestor to make responsive bids.

9. A method in accordance with Claim 7 further including processing said competitive pricing bids according to a broadband bandwidth allocation pricing trend.

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10. A method in accordance with Claim 9 wherein said competitive processing step includes accepting bids of increasing value if said pricing trend is up and accepting bids of decreasing value if said pricing trend is down.

11. A method in accordance with Claim 9 further including providing an indication to said requestor of said pricing trend.

12. A method in accordance with Claim 11 wherein said pricing trend indication providing step includes marketing bandwidth availability more aggressively when said pricing trend is down than when said pricing trend is up.

13. A method in accordance with Claim 1 wherein said adjusting step includes adjusting one or more of said requestor's broadband bandwidth allocation, broadband service class, broadband connection traffic descriptors, and broadband quality of service parameters.

14. A method in accordance with Claim 13 wherein adjustment of said broadband bandwidth allocation includes adjusting said requestor's fractional bandwidth occupancy relative to maximum available bandwidth.

15. A method in accordance with Claim 13 wherein adjustment of said broadband service class includes adjusting said bandwidth service class to one of a Constant Bit Rate service, real-time Variable Bit Rate service, non-real-time Variable Bit Rate service, Available Bit Rate service, and Unspecified Bit Rate service.

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16. A method in accordance with Claim 13 wherein adjustment of said broadband connection traffic descriptors includes adjusting one or more of a Peak Cell Rate value, a Sustainable Cell Rate value, a Minimum Cell Rate value, a Maximum Burst Size value, a Cell Delay Variation Tolerance value, and a Usage Parameter Control value.

17. A method in accordance with Claim 13 wherein adjustment of said broadband quality of service parameters includes adjusting one or more of a Cell Loss Ratio value, a Cell Transfer Delay value, and a Cell Delay Variation value.

18. A method in accordance with Claim 1 wherein said requestor is a human broadband network subscriber communicating with said broadband network via a data processing device.

19. A method in accordance with Claim 1 wherein said requestor is an automated broadband allocation adjustment agent operating on a broadband network subscriber's data processing device, said agent being adapted to initiate a broadband bandwidth allocation adjustment request based on factors relating to said broadband network subscriber's use of said data processing device.

20. A method in accordance with Claim 19 wherein said factors include a comparison of said subscriber's broadband bandwidth allocation needs versus said

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subscriber's current broadband bandwidth allocation, and consideration of broadband bandwidth allocation pricing.

21. A method in accordance with Claim 1 further including the step of providing an indication to said requestor of broadband bandwidth allocation adjustment service availability.

22. A method in accordance with Claim 21 wherein said indication providing step includes implementing a broadband bandwidth allocation adjustment website.

23. A method in accordance with Claim 1 wherein said bandwidth allocation service manager implements a bandwidth allocation adjustment menu containing one or more selectable bandwidth allocation adjustment options and said receiving step includes receiving inputs from said requestor representing selections of said one or more bandwidth allocation adjustment options.

24. A method in accordance with Claim 23 wherein said bandwidth allocation adjustment menu includes a bandwidth allocation control element.

25. A method in accordance with Claim 23 wherein said bandwidth allocation adjustment menu includes a time duration control element for specifying a time duration for which said bandwidth allocation adjustment will remain in effect.

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26. A method in accordance with Claim 23 wherein said bandwidth allocation adjustment menu includes a start time control element for specifying a time at which said bandwidth allocation adjustment will begin.

27. A method in accordance with Claim 23 wherein said bandwidth allocation adjustment menu includes a cost display element for specifying a cost of implementing said bandwidth allocation adjustment.

28. A method in accordance with Claim 23 wherein said bandwidth allocation adjustment menu includes a rate display element for specifying rates for units of bandwidth purchased for selected time periods.

29. A method in accordance with Claim 23 wherein said bandwidth allocation adjustment menu includes a main menu containing a bandwidth allocation control element, a time duration control element, a start time control element, a cost display element, and a selection element for accessing a sub-menu containing additional bandwidth allocation control elements.

30. A method in accordance with Claim 29 wherein said additional bandwidth allocation control elements include one or more service category control elements, connection traffic descriptor control elements, and quality-of-service control elements.

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31. A method in accordance with Claim 1 wherein, prior to said adjusting step, said broadband bandwidth allocation adjustment request is processed to determine whether said broadband network can provide the requested bandwidth allocation adjustment.

32. A system for providing controlled broadband access bandwidth allocation adjustment service in a broadband network, comprising:

a broadband bandwidth allocation service manager that is accessible via said broadband network; and

a broadband bandwidth allocation adjuster associated with said service manager, said allocation adjuster being responsive to a broadband bandwidth allocation adjustment request from a requestor.

33. A system in accordance with Claim 32 further including a broadband bandwidth allocation pricer that is responsive to broadband bandwidth demand and availability factors, said pricer being linked to said allocation adjuster, and said allocation adjuster being responsive to acceptance of bandwidth allocation pricing set by said bandwidth allocation pricer by said requestor.

34. A system in accordance with Claim 33 wherein said broadband bandwidth allocation pricer is adapted to decrease pricing to fill bandwidth allocation vacancies.

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35. A system in accordance with Claim 33 wherein said broadband

36. A system in accordance with Claim 33 wherein said broadband

37. A system in accordance with Claim 36 wherein said pricing includes rates

38. A system in accordance with Claim 33 wherein said bandwidth allocation

39. A system in accordance with Claim 33 wherein said auction module is

40. A system in accordance with Claim 33 wherein said auction module is



42. A system in accordance with Claim 40 wherein said auction module is adapted to provide an indication to said requestor of said pricing trend.

44. A system in accordance with Claim 33 wherein said allocation adjuster is adapted to adjust one or more of said requestor's broadband bandwidth allocation, broadband service class, broadband connection traffic descriptors, and broadband quality of service parameters.

46. A system in accordance with Claim 44 wherein said allocation adjuster is adapted to adjust said bandwidth service class to one of a Constant Bit Rate service, real-time Variable Bit Rate service, non-real-time Variable Bit Rate service, Available Bit Rate service, and Unspecified Bit Rate service.

47. A system in accordance with Claim 44 wherein said allocation adjuster is adapted to adjust one or more of a Peak Cell Rate value, a Sustainable Cell Rate value, a Minimum Cell Rate value, a Maximum Burst Size value, a Cell Delay Variation Tolerance value, and a Usage Parameter Control value.

48. A system in accordance with Claim 44 wherein said allocation adjuster is adapted to adjust one or more of a Cell Loss Ratio value, a Cell Transfer Delay value, and a Cell Delay Variation value.

49. A system in accordance with Claim 33 wherein said requestor is a human broadband network subscriber communicating with said broadband network via a data processing device.

50. A system in accordance with Claim 33 wherein said requestor is an automated broadband allocation adjustment agent operating on a broadband network subscriber's data processing device, said agent being adapted to initiate a broadband bandwidth allocation adjustment request based on factors relating to said broadband network subscriber's use of said data processing device.

51. A system in accordance with Claim 50 wherein said factors include a comparison of said subscriber's broadband bandwidth allocation needs versus said subscriber's current broadband bandwidth allocation, and consideration of broadband bandwidth allocation pricing.

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53. A system in accordance with Claim 52 wherein said service manager implements a broadband bandwidth allocation adjustment website.

54. A system in accordance with Claim 33 wherein said service manager implements a bandwidth allocation adjustment menu containing one or more selectable bandwidth allocation adjustment options and responsive to inputs from said requestor representing selections of said one or more bandwidth allocation adjustment options.

55. A system in accordance with Claim 54 wherein said bandwidth allocation adjustment menu includes a bandwidth allocation control element.

56. A system in accordance with Claim 54 wherein said bandwidth allocation adjustment menu includes a time duration control element for specifying a time duration for which said bandwidth allocation adjustment will remain in effect.

57. A system in accordance with Claim 54 wherein said bandwidth allocation adjustment menu includes a start time control element for specifying a time at which said bandwidth allocation adjustment will begin.

62. A system in accordance with Claim 33 wherein said allocation adjuster is adapted to process said broadband bandwidth allocation adjustment request by determining whether said broadband network can provide the requested bandwidth allocation adjustment.

63. A method for providing controlled broadband access bandwidth allocation in a broadband network, comprising:

implementing a broadband bandwidth allocation server connected to the broadband network;

sending a first network communication to a subscriber end system in the broadband network that advises of one or more network bandwidth allocation adjustment options from which a subscriber may select, said first communication comprising a graphical user interface that includes a main menu comprising a bandwidth allocation control element for selecting a bandwidth allocation adjustment, a time duration control element for specifying a time duration for which said bandwidth allocation adjustment will remain in effect, and a cost display element for specifying a cost of implementing said bandwidth allocation adjustment, said main menu further including a selection element for accessing a submenu containing additional bandwidth allocation control elements, said additional bandwidth allocation control elements including one or more service category control elements, connection traffic descriptor control elements, and quality-of-service control elements;

receiving a second network communication from the subscriber end system in response to said first communication containing a bandwidth allocation request from the subscriber; and

granting the subscriber end system a network bandwidth allocation adjustment that corresponds to said bandwidth allocation request, if available.

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